



# MODIS/Terra and MODIS/Aqua Atmospheric Data Products

## Goddard Earth Sciences (GES) DAAC

### LEVEL-2: (5-minute orbital swaths)

#### Aerosol Optical and Microphysical Properties

(MOD04\_L2, MYD04\_L2)

Contains aerosol type, optical thickness, particle size parameters, mass concentration, Cloud Condensation Nuclei (CCN), asymmetry factor, back scattering ratio and Angström exponents. The aerosol particle size distribution is provided only over the oceans, and the aerosol type is provided only over the continents (**10 km pixel resolution, level-2 swath product, day**).

#### Atmospheric Water Vapor

(MOD05\_L2, MYD05\_L2)

Contains near-Infrared estimates of total atmospheric column water vapor over clear land areas of the globe, over extended clear oceanic areas in the glint region and above clouds over both land and ocean (**1 km pixel resolution, daytime**). Also contains infrared-derived total precipitable water vapor, a component of another MODIS product MOD07\_L2 and MYD07\_L2 (**5 km pixel resolution, day and night**).

#### Cloud Optical and Physical Properties

(MOD06\_L2, MYD06\_L2)

Contains cloud top parameters (temperature, height, pressure, effective emissivity), cloud phase, cloud fraction, brightness temperature, cloud forcing, and surface temperature (**5 km pixel resolution**); cirrus and contrail reflectance, cloud water path, cloud optical thickness, effective radius (**1 km pixel resolution**).

#### Atmospheric Profiles and Stability Indices

(MOD07\_L2, MYD07\_L2)

Contains temperature, moisture, and geopotential height values at 20 atmospheric pressure levels, total ozone, and three stability indices. The total-ozone burden is an estimate of the total-column tropospheric and stratospheric ozone content (**5km pixel resolution, day and night**).

#### Cloud Mask

(MOD35\_L2, MYD35\_L2)

Contains global cloud mask, clear-sky confidence level (high confident clear, probably clear, undecided, cloudy), identification of cirrus cloud, cloud shadow, sun-glint, land/water, snow/ice and day/night (**250 m and 1 km pixel resolution**).

### LEVEL-3: (global, 1° x 1° equal angle grids)

#### Daily Global Joint Product

(MOD08\_D3, MYD08\_D3)

Contains daily 1° x 1° grid averages and number of statistically derived quantities for almost all level-2 atmospheric parameters.

#### Eight-Day Global Joint Product

(MOD08\_E3, MYD08\_E3)

Contains eight-day 1° x 1° grid averages and number of statistically derived quantities for almost all level-2 atmospheric parameters.

#### Monthly Global Joint Product

(MOD08\_M3, MYD08\_M3)

Contains monthly 10 x 10 grid averages and number of statistically derived quantities for almost all level-2 atmospheric parameters.

\* Please note that for all MODIS products "MO" is the Terra prefix and "MY" is the Aqua prefix.

NASA Goddard Earth Sciences (GES) DAAC: <http://daac.gsfc.nasa.gov/>

GES DAAC Data Access: <http://daac.gsfc.nasa.gov/data/>

EOS Data Gateway: <http://eos.nasa.gov/ims/welcome/>

MODIS Atmosphere Science Team: <http://modis-atmos.gsfc.nasa.gov/>

### MODIS SPECTRAL BANDS

Band	Effective Center Wavelength (μm)	Bandwidth (μm)
Reflective Solar Bands 250m Spatial Resolution		
1	0.659	0.620 - 0.670
2	0.865	0.841 - 0.876
Reflective Solar Bands 500m Spatial Resolution		
3	0.470	0.459 - 0.479
4	0.555	0.545 - 0.565
5	1.240	1.230 - 1.250
6	1.640	1.628 - 1.652
7	2.130	2.105 - 2.155
Reflective Solar Bands 1km Spatial Resolution		
8	0.412	0.405 - 0.420
9	0.443	0.438 - 0.448
10	0.488	0.483 - 0.493
11	0.531	0.526 - 0.536
12	0.551	0.546 - 0.556
13	0.667	0.662 - 0.672
14	0.678	0.673 - 0.683
15	0.748	0.743 - 0.753
16	0.869	0.862 - 0.877
17	0.905	0.890 - 0.920
18	0.936	0.931 - 0.941
19	0.940	0.915 - 0.965
26	1.375	1.360 - 1.390
MWIR Emissive Bands 1km Spatial Resolution		
20	3.75	3.660 - 3.840
21	3.96	3.929 - 3.989
22	3.96	3.929 - 3.989
23	4.05	4.020 - 4.080
24	4.47	4.433 - 4.498
25	4.52	4.482 - 4.549
LWIR Emissive Bands 1km Spatial Resolution		
27	6.72	6.535 - 6.895
28	7.33	7.175 - 7.475
29	8.55	8.400 - 8.700
30	9.73	9.580 - 9.880
31	11.03	10.780 - 11.280
32	12.02	11.770 - 12.270
33	13.34	13.185 - 13.485
34	13.64	13.485 - 13.785
35	13.94	13.785 - 14.085
36	14.24	14.085 - 14.385

Level	Spatial Resolution	Temporal Resolution	Size	File Frequency
Level 2	1km, 5km, 10km	5-minutes	3 - 70 MB	144 or 288 files per day
Level 3	1 degree	Daily, Weekly, Monthly	437 - 787 MB	1 file per period